



# EC 160

CO<sub>2</sub> Incubator



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### OPTIMIZED CULTURE CONDITIONS

Reproducible and reliable cell growth is dependent upon three critical parameters, temperature, CO<sub>2</sub> concentration and relative humidity. EC 160 CO<sub>2</sub> Incubator offers the researcher all that is required to ensure optimum cell culture conditions.

- N-Smart™ control software for continuous optimization of conditions with 4,3" colourful LCD display
- Homogeneous thermal conditions to give comparable results in cultures in any position within the chamber
- PID control for stable temperature and CO<sub>2</sub> during the cycle
- RaPIDcell™ proportional control for fast recovery & no overshoot after a door opening
- Constant >95 % RH throughout the growth cycle; large area heated humidity tray
- Infra-Red CO<sub>2</sub> sensor unaffected by temperature or humidity, even with frequent door openings. Also accurate when set values are changed. Auto-zeros every 12 minutes





## CONTAMINATION RESISTANCE

Prevention is better than cure. That is why NÜVE has designed its EC Series to resist contamination with its clean chamber concept. Should contaminants enter during door opening, then an efficient wet disinfection system killing mycoplasma, fungal spores, molds and bacteria is available for immediate use. Because the smooth chamber contains zero components, the optional UV system upgrades its effectiveness to sterilization level. One more defense for the scientist.

- No vigorous fan-assisted circulation required; no promotion of cross-contamination
- Minimum number of parts in the chamber, only racks, shelves, & sample containers
- Easily cleaned rounded corners in the one-piece chamber; no welds
- Minimized contact of flat shelves & round racking; no contaminant growth sites
- Automated NüveDis™ 90 °C wet disinfection function is standard,
- Optional nUveRay™ fast UV disinfection; can sterilize an empty chamber
- NüveClean™ reagents added to the humidity tray make contamination negligible
- The IR sensor, auto-zero reference air and injection of new CO<sub>2</sub> are protected by 0.22 µm sterilizing filters, elimination potential contamination



## CONVENIENT OPERATION

Time is a very valuable commodity that no researcher can afford to waste.

EC 160 offers the ultimate in convenience, eliminating unnecessary actions and delays and simplifying manipulation.

The operator interface makes life simple with the minimum of actions and the maximum of information.

- Anti-tip shelves simplify introduction, removal and exchange of samples
- Sterilizing 0.22  $\mu\text{m}$  filters outside; no space-wasting or expensive HEPA filters to change
- No probes or filters to be removed for disinfection; just press and go
- The large surface area humidity tray can be removed in seconds for cleaning
- Password protected Menu eliminates any possibility of changing parameters
- Shelf dimensions have been optimized to accept the largest sample capacity
- Shelves and racks can be removed in 10-20 seconds for autoclaving
- Thorough sanitization of the chamber in no time as there are no chamber fittings
- The user is guided through all steps via on-screen display
- Easy to understand display with icons in five different languages
- The information is still visible when the door is open
- Reminder for calibration or servicing, so optimizing culture conditions
- Optional access port permits a hard wired EU mains plug to pass through
- UV operation is controlled by on-board timer when using optional power outlet
- NüveClean™ reagents are ready to use; no weighing necessary

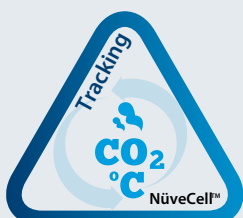
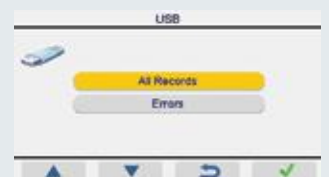


## MONITORING, TRACEABILITY & COMMUNICATION

Reassurance that your cultures are being maintained under ideal conditions is an area in which the EC 160 excels. The key parameters are perpetually recorded, no action for you to remember during the most recent period and connection to an external device permits all cycle data to be permanently recorded and stored.

There is no need to worry what is happening in your absence. A full set alarm is built in and an optional feature will inform you instantly and wherever you are.

- Operating parameters can be tracked graphically against time
- Massive data storage with NüveTrack™ which automatically records conditions of 10 years data with 60 minutes intervals
- Recall any time stored data by selecting the date intervals
- Memory for the last 100 failures
- Data tracking and storage on PC via optional NüveCell™ software
- USB port to record the data in the memory to a memory with selectable time intervals between 1 and 60 minutes
- Ethernet port for remote access through internet by means of optional NüveCloser™ software
- Sending e-mails up to five e-mail addresses with the details of failure
- NüveCloser™ allows to access operating parameters, memory, failure history and other technical parameters
- Audible alarms and on-screen messages in plain language, no codes
- Remote or central alarm devices can be connected to a relay switch
- Optional NüveWarn™ remote alarm system
- Optional AlerText™ for the ultimate security will send a SMS to mobile phones
- Could call a service engineer for rapid response and expert assistance



## TECHNICAL SPECIFICATIONS

Control System	N-Smart™ microprocessor control system
Temperature Range	Ambient temperature +7° C to 50° C
Temperature Set & Display Sensitivity	0,1°C
Temperature Variation / Fluctuation	±0,3°C at 37 °C / ±0,1°C
Programmable Temperature Alarm Range	±0,5°C to 5°C
Temperature Sensor	Pt 100
CO <sub>2</sub> Range	0 % to 20 %
CO <sub>2</sub> Set & Display Sensitivity	0,1 %
CO <sub>2</sub> Variation / Fluctuation	±0,3 % / ±0,1 %
Programmable CO <sub>2</sub> Alarm Range	±0,5 % to 5,0 %
CO <sub>2</sub> Sensor	Infra-Red (IR) with high stability
Calibration	Auto-zero every 12 minutes
Contamination resistance	0.22 µm sterilizing filters on CO <sub>2</sub> , air and gas sampling lines
Relative Humidity Level	95 % RH ±5 % @ 37°C
Recovery Times after 30 sec. door opening	Temperature to 36,5°C = 10 min. – CO <sub>2</sub> to 4,9 % = 3 min.
Disinfection	NüveDis™ 90°C high humidity; password protected and timed
Chamber Volume, Material & Design	160 Litres Stainless steel Rounded corners No fittings
Number of Shelves (standard / maximum)	3 / 8
Shelf Load Area (WxD) mm	465 x 400, 20 x Ø90 mm / 56 x Ø55 mm Petri dishes; 15 x 250 ml CC flasks
Casing / Insulation Materials	Epoxy-polyester powder coated steel / Foil-encapsulated glass wool
Display	4,3" Colourful LCD Display
Data Recall	NüveTrack™ shows Date, Time, T °C and CO <sub>2</sub> % up to 10 years
Data Reporting	NüveCell™ data tracking software and USB port for data recording
Alarms	Audible (mutable, with callback), Visual message, Relay to NüveWarn™ remote or central alarm system. Optional AlerText™ text message to cell phone
Power Consumption	900 W
Power Supply	230 V 50/60 Hz
Internal Dimensions (WxDxH) mm	500x460x700
External Dimensions (WxDxH) mm	850x730x910
Packing Dimensions (WxDxH) mm	890x770x1170
Net/Packed Weight kg	108 - 132

### FACTORY FITTED OPTIONS

EC 160H Cable port

### OPTIONS :

- A 08 196 NuveCloser™ Software CD with 3 m. RS 232 cable
- A 08 142 AlerText™ GSM alarm module
- K 13 009 NuveWarn™ remote alarm system with 10 m cable
- A 08 143 nUveRay™ UV light sterilization kit
- A 08 144 NuveClean™ decontamination kit for humidity tray ( 20 doses)
- R 01 154 Stainless steel shelf
- A 08 146 Stacking adapter
- A 08 147 Support frame
- A 08 148 Roller base
- F 06 003 0,22 µm Biological filter (Spare)
- R 11 007 Single stage regulator for CO<sub>2</sub> gas cylinder
- A 08 149 Gas changeover unit for two CO<sub>2</sub> gas cylinders

Note: A 08 142 and K 13 009 cannot be used at the same time



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ISO 9001: 2008  
ISO 13485: 2003